

### **REMARKS**

The following remarks are responsive to the Office Action mailed February 10, 2006, following the submission of an RCE with a petition to withdraw from issue. Applicant respectfully requests reconsideration of the subject application in view of the following remarks.

#### **Amendments to the Claims**

Claims 1 – 5, 7 – 10, 12 – 20, 22 – 25, 27 – 39, 42 – 46 and 51 – 55 are pending in this Application. The text of the pending claims in the Claim Listing herein, prior to amendment, reflects the claims as written in the Amendment and Reply filed on January 31, 2005. The undersigned also points out that claims 12 and 15 as presented in the Claim Listing herein include changes that were made by Examiner's Amendment mailed June 17, 2005 included with the Notice of Allowance in the subject application. Specifically, the word "quadrants" was added in line 5 in each of claims 12 and 15. See Notice of Allowance, Examiner's Amendment, mailed 06/17/2005.

Claims 1, 7, 10, 12, 15, 16, 20, 22, 23 – 34, 37 – 39, 42 and 51 have been amended to correct grammatical informalities. In the prior amendment filed in the subject application, several independent claims were canceled and dependent claims were rewritten to include the limitations of those claims. In some instances, these changes created various grammatical informalities. So, for example, several claims have been amended to add "wherein" to introduce a clause having a present tense verb, and to move the word "and" from one clause to another. In addition, it was noted that some limitations were repeated within the same claim, and so these repeated limitations were deleted (e.g., "disposed in the center of said square.") Other informalities that may have been introduced in prior amendments or may have been present in the original claims have all been corrected. These claim amendments are not being made as a requirement for patentability, and are merely technical and cosmetic in nature. There is no intent to narrow the scope of the claims

or to effect the Doctrine of Equivalents as it might be applied to these claims were they left unamended.

Independent claims 1, 16, 31, 34, 39, 42 and 51 have been amended to address the rejections under 35 U.S.C. §112, first and second paragraphs. These amendments are more fully discussed below. The claims have not been amended to overcome the rejection under 35 U.S.C. §103, as Applicant believes that the Office Action fails to state a *prima facie* rejection.

Since this amendment adds no new claims nor cancels claims, claims 1 – 5, 7 – 10, 12 – 20, 22 – 25, 27 – 39, 42 – 46 and 51 – 55 remain pending in the subject application after entry of this amendment.

### **Double Patenting Rejection**

The Office Action has provisionally rejected claims 1 – 5, 7 – 10, 12 – 20, 22 – 24, 25, 27 – 36, 39, 42 – 46 and 51 – 55 under the judicially created doctrine of obviousness-type double patenting variously over claims 2 and 4 of US 6,950,115. The Office Action notes, as to each of these rejections, that “it would have been obvious to one of ordinary skill in the art to make the claim made in this application because it is only a subset of what has been claimed before.”

Applicant disagrees with the interpretation of the claim language in each of the rejected claims as it applies to the claims in US 6,950,115. In particular, Applicant does not believe that the claim limitation “at least two neighboring blue emitters in the same row are connected to the same driver” is implied by the language in claim 2 of US 6,950,115 of “associated structures connected to said first, second and third transistors,” as asserted in the Office Action.

Applicant further disagrees that the claims in the subject application are “only a subset of what has been claimed before.” In fact, the claims in the subject application were filed before the claims in US 6,950,115 were filed, and so technically the claims in the subject application are not “a subset of what has been claimed before.”

However, in the interest of moving prosecution forward in the subject application, Applicant has filed a terminal disclaimer accompanying this Reply. Applicant respectfully submits that the obviousness-type double patenting rejection has been overcome.

#### **Claim and Specification Objection**

The Office Action has objected to Claim 38 as containing the informality “ach” instead of the word “each.” Appropriate correction has been made. Applicant respectfully submits that the objection has been overcome.

#### **Claim Rejections under 35 U.S.C. § 112, second paragraph**

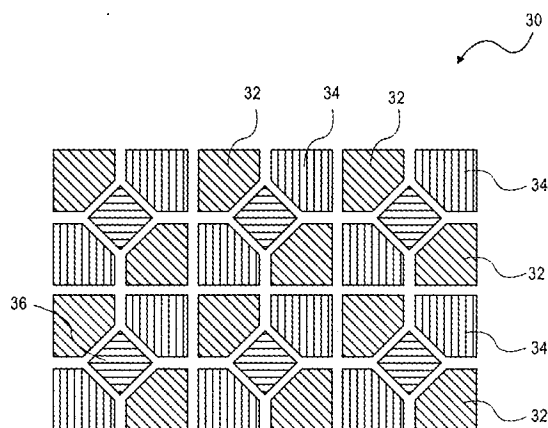
The Office Action has rejected claims 1 – 5, 16 – 20, 31 – 33, 34 – 36, 39, 42 – 46 and 51 - 55 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, the Office Action states that the terms “row” and “same driver” are not clear as to their meaning.

##### **The term “row”.**

Each of claims 1, 16, 31, 34, 39 and 42 includes a phrase in its preamble that reads “a plurality of three-color pixel elements that form at least one row of pixel elements.” As noted in the specification at page 4, lines 12 – 13, “the plurality of pixel elements may be arranged in rows and columns to form a display.” Thus, the term “row” is used in the preamble in its conventional meaning with respect to the array configuration of a display: a display is conventionally thought of as having a configuration of rows and columns.

Also as noted in the specification at page 7, lines 13 – 14, “FIG. 2 is an array 30 of the three-color pixel element 10 of FIG. 1a. The array 30 is repeated across a panel or chip to complete a device with the desired matrix resolution.” It is respectfully submitted that a person of ordinary skill in the art would have no difficulty

recognizing the pixel elements of FIG. 2 (reproduced below) as being aligned in two rows.



**FIG. 2**

Therefore, the “a same row” language, or variation thereof in each of claims 1, 16, 31, 34, 39 and 42 has been amended to use the language in the preamble so as to clarify that “at least two neighboring blue emitters in the at least one row of pixel elements are connected to the same driver.”

The rejection of these claims may be expressing some concern with respect to a row of pixel elements and a row driver in the drive circuitry of the display. Applicant respectfully submits that it is possible and plausible to use a word in the English language in two different contexts without creating “indefiniteness.” The term “row” is used in the subject application in at least two contexts. In one context, the term “row” denotes a horizontal extent of pixel elements on a display, as described above.

In a second context, the subject application discusses the drive circuitry which would be suitable for a display substantially comprising the three-color pixel element as described. In the context of drive circuitry, a person of ordinary skill in the art of such displays recognizes that drive circuitry conventionally includes row drivers and column drivers. The specification, describing illustrative drive matrix 60 of FIG. 3b, states at page 10, lines 1 – 6 that

[t]he row drivers of the present invention drive the red, green and blue emitters in each row. Row driver 72 drives red emitters 44a and 44b, green emitters 48a and 48b, as well as blue emitter 42b. Row driver 74 drives green emitters 46a and 46b, red emitters 50a and 50b and blue emitter 42a. Each emitter can be driven at continuous luminance values at specific locations in a pixel element, unlike emitters in the prior art, which are driven at discrete luminance values at random locations in a pixel.

This paragraph refers to “emitters in each row” in the context of the “rows” of individual emitters driven by the row drivers of FIG. 3b. It is respectfully submitted that such a person of ordinary skill in the art would easily distinguish a *row of emitters* addressed by a row driver in the context of the drive circuitry of the display as shown in FIG. 3b with a *row of pixel elements* on the display as shown in FIG. 2, and so would find claims 1, 16, 31, 34, 39 and 42 definite as to the limitation of “at least two neighboring blue emitters in the at least one row of pixel elements are connected to the same driver.”

With respect to claim 51, the preamble states (as amended) “a display substantially comprising a plurality of three-color pixel elements formed along a first direction of the display.” The limitation including the blue emitter has been amended to read “wherein at least two blue emitters of at least two of the plurality of three-color pixel elements formed along the first direction are connected to a same data driver.” The language “a first direction” is intended to capture pixel elements disposed on the display in directions not limited to the row direction, as in the claims discussed above. This is further made clear by dependent claims 54 and 55. It is believed that the amended language in claim 51 now follows standard claiming conventions, and the term “formed along the first direction” is not indefinite when read in the context of the claim as a whole.

For the foregoing reasons, it is believed that amended independent claims 1, 16, 31, 34, 39, 42 and 51 are no longer indefinite as to the use of the term “row” and

“in a same row”, and that the rejection under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, has been overcome. Insofar as claims 2 – 5, 17 – 20, 32 – 33, 35 – 36, 43 – 46 and 52 – 55 are concerned, these claims include the limitations of and depend from claims 1, 16, 31, 34, 39, 42 and 51, and so are also believed to have overcome the rejection under 35 U.S.C. §112, second paragraph.

The term “same driver”.

Applicant declines to amend claims claims 1, 16, 31, 34, 39 and 42 with respect to the term “same driver.” The Office Action states that “it is also not clear what the ‘same driver’ means.” The Office Action further states that it could mean “the same row driver” or “the same column driver.” (Office Action at page 14.) The Office Action points to FIG. 3b as showing two blue emitters being connected to the same column driver, and showing that two blue emitters being connected to different row drivers, and then concludes from this that “the metes and bounds of the claim cannot be ascertained.”

First, Applicant submits that the amendments to the claims made with respect to clarifying the use of the term “row,” as discussed above, further aid in the particularity and precision of the term “same driver.” As to claims 1, 16, 31, 34, 39 and 42, the language in these claims now states that “at least two neighboring blue emitters in the at least one row of pixel elements are connected to the same driver.” These claims now particularly point out to a person of skill in the art which two blue emitters are connected to the same driver.

The Office Action notes that “the two neighboring blue emitters 42A and 42B are connected to the column driver 64, rather than the same row driver such as the row driver 72 or the row driver 74.” Applicant points out that the clarification as to the term “row” in the claims now makes this observation consistent with the claim term

“same driver”: the two neighboring blue emitters are connected to the same (column) driver.

Moreover, the term is consistent with the specification, at page 10, lines 11 – 15, which makes clear that FIG. 3b is exemplary of the possible range of driver connections by stating

... [t]his entire arrangement can be turned 90 degrees such that the combined blue emitters 12 are driven by the same row driver. All such topologically identical variants known in the art are possible embodiments of this invention. In addition, the driver type, voltage, and timing can be the same as already known in the art for each device technology.

Thus, Applicant respectfully submits that, in view of the clarification of the term “row” and as long as a person of ordinary skill in the art may discern the meaning of the term “driver,” the term “same driver” is definite when the claim is read as a whole and in light of the specification, and need not be further limited.

Finally, with respect to claim 51, the language used in that claim refers to “the same data driver.” Applicant respectfully submits that a claim term that is not defined in the specification is not indefinite if the meaning of the claim term is discernible. Applicant believes that the term “data driver” is well known in the art of displays and that a person of ordinary skill in the art would understand the meaning of the term “data driver.” For example, a search of the USPTO data base of issued patents using the search terms ABST/"data driver" AND ABST/display produces more than 100 issued patents related to display technology each of which refers to “data driver” in its Abstract.

It is respectfully submitted that, if the meaning of a term is discernible to a person of ordinary skill in the art from the claim as a whole, Applicant is not required to restrict such a term to a particular aspect of its meaning. Applicant requests that the Examiner provide additional explanation as to why “data driver” would be indefinite to a person of ordinary skill in the art.

For the foregoing reasons, it is believed that amended independent claims 1, 16, 31, 34, 39, 42 and 51 are not indefinite as to the use of the term “same driver” and “same data driver.” Applicant requests that the rejection of these claims under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, be withdrawn. Insofar as claims 2 – 5, 17 – 20, 32 – 33, 35 – 36, 43 – 46 and 52 – 55 are concerned, these claims include the limitations of and depend from claims 1, 16, 31, 34, 39, 42 and 51, and so Applicant requests that the rejection of these claims under 35 U.S.C. §112, second paragraph also be withdrawn.

**Claim Rejections under 35 U.S.C. § 112, first paragraph**

The Office Action has rejected claims 1 – 5, 16 – 20, 31 – 33, 34 – 36, 39, 42 – 46 and 51 - 55 under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. In particular, the Office Action states that the terms “row” and “same driver” are not clear as to their meaning. The Office Action states that, to comply with the written description requirement, an applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention. The Office Action further states that, for purposes of the written description inquiry, the invention is whatever is now claimed, and that, for purposes of written description, one shows “possession” by descriptive means such as words, structures, figures, diagrams and formulas that fully set forth the claimed invention. The Office Action concludes by saying that such descriptive means cannot be found in the disclosure for the inventions of the base claims 1, 16, 31, 34, 39, 42 and 51. (Office Action, page 13.)

The undersigned has addressed the two § 112 rejections in an order different from that presented in the Office Action because it is believed that the discussion above with respect to the rejection under 35 U.S.C. §112, second paragraph, is equally applicable to the rejection under 35 U.S.C. §112, first paragraph. The Office Action recites the same concerns with respect to the rejection under 35 U.S.C. §112, first paragraph, as are recited with respect to the rejection under 35 U.S.C. §112,



second paragraph. Paraphrasing and summarizing what the Office Action states for each claim, the Office Action states that the use of the terms “row” and “same driver” in the same limitation is unclear in view of FIG. 3b and its accompanying description in the specification.

As noted above, Applicant has amended base claims 1, 16, 31, 34, 39, 42 and 51 to clarify the term “row” as meaning “a row of pixel elements.” As to amended base claims 1, 16, 31, 34, 39 and 42, the language in these claims now states that “at least two neighboring blue emitters in the at least one row of pixel elements are connected to the same driver.” Applicant respectfully submits that the language in these amended claims now demonstrates that Applicant has conveyed with reasonable clarity to those skilled in the art that, as of the filing date sought, she was in possession of the invention as to which two blue emitters are connected to the same driver.

With respect to amended independent claim 51, the limitation including the blue emitter has been amended to read “wherein at least two blue emitters of at least two of the plurality of three-color pixel elements formed along the first direction are connected to a same data driver,” conforming this language to the amended preamble which recites “a display substantially comprising a plurality of three-color pixel elements formed along a first direction of the display.” Applicant respectfully submits that the language in these amended claims now demonstrates that Applicant has conveyed with reasonable clarity to those skilled in the art that, as of the filing date sought, she was in possession of the invention as to which two blue emitters are connected to the same driver.

With respect to the language of the “same driver,” Applicant believes that the amendments to the claims and the arguments recited above with respect to the rejection of these claims under 35 U.S.C. §112, second paragraph, are equally applicable to the rejection under 35 U.S.C. §112, first paragraph. In particular, clarification of the location of the blue emitters provided by the amended claim language renders the “same driver” language definite since it was the confusion

generated by FIG. 3b as to which blue emitters were connected to which drivers that contributed to this rejection. Further, as was pointed out above, the specification explicitly provides for variations in the exemplary drive circuit shown in FIG. 3b.

For the foregoing reasons, it is believed that the amendments to independent claims 1, 16, 31, 34, 39, 42 and 51 have provided clarity to the claims sufficient to show that Applicant was in possession of the invention as claimed as of the filing date, as required by the written description requirement of 35 U.S.C. §112, first paragraph. Applicant respectfully submits that this rejection has been overcome. Insofar as claims 2 – 5, 17 – 20, 32 – 33, 35 – 36, 43 – 46 and 52 – 55 are concerned, these claims include the limitations of and depend from claims 1, 16, 31, 34, 39, 42 and 51, and so are also believed to have overcome the rejection under 35 U.S.C. §112, first paragraph.

#### **Claim Rejection under 35 U.S.C. § 103**

The Office Action has rejected claims 1 – 5, 7 – 9, 10, 12 – 14, 15, 16 – 20, 22 – 24, 25, 27 – 29, 30, 31 – 33, 34 – 36, 39, 42 – 46 and 51 – 55 under 35 U.S.C. §103(a) as being unpatentable over Maeshima et al. (US 6,486,923) (hereafter, Maeshima). Applicant respectfully submits that the discussion that follows will show that the Office Action does not make a *prima facie* case of obviousness with respect to any of the claims in the subject application, and requests that the rejection be withdrawn.

#### **Teaching of Maeshima**

Maeshima discloses a color picture display apparatus that employs an array of light-emitting diodes or other light-emitting elements emitting different colors. (Abstract.) Maeshima notes that

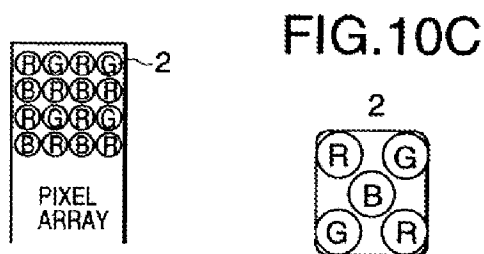
a problem encountered in LED-panel display apparatus is that the colors emitted by red, green, and blue LEDs differ from the colors

emitted by the red, green, and blue phosphors employed in a conventional television picture tube or cathode-ray tube (CRT).

(Maeshima, col. 1, lines 22 – 26.) Maeshima describes the color picture display apparatus disclosed therein as follows:

FIG. 1 discloses a color picture display apparatus comprising signal-processing circuitry 20 and a screen 21. The screen 21 comprises an m-by-n array of display units 30 .... Each display unit 30 comprises a display control circuit 5, a power supply 10 and a plurality of pixel arrays 15. Each pixel array 15 has a matrix of red (R), green (G), and blue (B) LEDs arranged in a regular pattern, with twice as many red LEDs as green or blue LEDs, referred to as the RRGB arrangement. Each LED functions as a separate pixel 2 in the pixel array 15.

(Maeshima, col. 2, lines 55 – 67.) Thus, in a first embodiment of the display apparatus, each LED functions as a separate pixel 2 in pixel array 15. Maeshima further notes that the embodiment described has one LED per pixel, but the invention can also be practiced in an apparatus with more than one LED per pixel, and notes that FIGS. 10A, 10B and 10C show examples of pixel arrays in which each pixel 2 comprises three, four or five LEDs respectively. Each pixel 2 comprises at least one LED of each of the three primary colors. (Maeshima, col. 6, lines 34 – 40.) Of interest to the claims in the subject application is the arrangement of LEDs in FIG. 10C, which is reproduced below along with a portion of FIG. 1 from Maeshima.



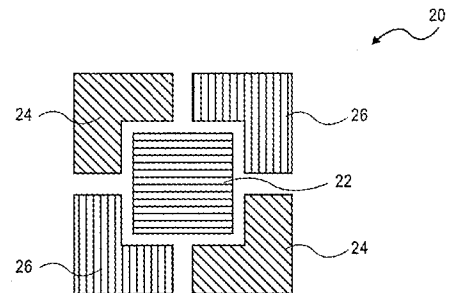
The § 103 rejection in the Office Action uses terms not found in Applicant's claims.

As a threshold matter, the Office Action does not discuss the seventeen independent claims individually, but rather appears to show where Maeshima teaches a subset of claim terms that are supposedly common to all of the claims. Applicant notes that the Office Action recites language on pages 19 and 20 with respect to "first pixel row," "second pixel row," "horizontal adjacent pairs of three-color pixel elements vertically offset from one another by one pixel row" and "blue emitters are coupled to a pair of blue emitters of a next-nearest neighboring three-color pixel element" that are simply not present in the claims in the subject application. Applicant therefore respectfully submits that the Office Action has not stated a *prima facie* case of obviousness under 35 U.S.C. §103(a) because it has recited Maeshima as teaching claim language that is simply not present in Applicant's claims, and has failed to reference certain claim language that is present in Applicant's claims.

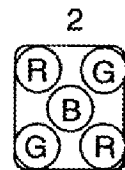
Independent claims 7, 10, 22 and 25: larger blue emitter area limitation

Claims 7, 10, 22 and 25 include a limitation with respect to the blue emitter that reads as follows: "a blue emitter disposed at said origin of said rectangular coordinate system, said blue emitter having an emitting area larger than that of each of said red emitters and said green emitters."

Applicant's Figure 1B reproduced here shows an embodiment in which the blue emitter has a larger emitting area larger than that of each of said red emitters and said green emitters.



The Office Action fails to state where Maeshima teaches this limitation. Applicant submits that Maeshima makes no reference to one of the light emitters in a pixel 2 having an emitting area larger than the other light emitters, and certainly does not make such a reference with



respect to the blue emitter. Moreover, neither pixel array 15 of FIG. 1 nor pixel 2 of

FIG. 10C shows any one of the light emitters having an emitting area larger than the other light emitters.

The Examiner may interpret claim terms broadly but may not simply ignore or read a claim limitation out of a claim. The Office Action is silent as to where Maeshima teaches such a limitation, and so fails to state a *prima facie* case of obviousness with respect to claims 7, 10, 22 and 25. Applicant requests that the rejection be withdrawn as to these claims. With respect to claims 8 – 9 and 23 – 24, these claims depend from claims 7 and 22 respectively, and Applicant requests that the rejection be withdrawn as to these dependent claims as well.

Independent claims 12, 15, 27 and 30: larger drive-to-luminance gain limitation

Claims 12, 15, 27 and 30 each include a limitation with respect to the blue emitter that reads as follows: “a blue emitter disposed at said origin of said rectangular coordinate system, said blue emitter having a larger drive-to-luminance gain than that of each of said red emitters and green emitters.”

The Office Action fails to state where Maeshima teaches this limitation. Applicant submits that Maeshima makes no reference to one of the light emitters in pixel 2 having a larger drive-to-luminance gain than the other light emitters, and certainly does not make such a reference with respect to the blue emitter.

The Examiner may interpret claim terms broadly but may not simply ignore or read a claim limitation out of a claim. The Office Action is silent as to where Maeshima teaches such a limitation, and so fails to state a *prima facie* case of obviousness with respect to claims 12, 15, 27 and 30. Applicant requests that the rejection be withdrawn as to these claims. With respect to claims 13 – 14 and 28 – 29, these claims depend from claims 12 and 27 respectively, and Applicant requests that the rejection be withdrawn as to these dependent claims as well.

Independent claim 39 is directed to an image capture device

Claim 39 is directed to an image capture device. The Office Action fails to state where Maeshima teaches that pixel layout 2 of FIG. 10C is suitable for use in an image capture device. Maeshima teaches the color picture display apparatus in the context of pixels comprising light-emitting diodes, and makes no mention of an ability to use the pixel configuration of FIG. 10C in an image capture device.

The Office Action fails to state a *prima facie* case of obviousness with respect to claim 39. Applicant requests that the rejection be withdrawn as to this claim.

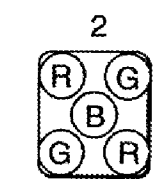
Independent claims 10, 15, 22, 25, 27 and 30: pixel geometry limitations

Claims 10, 15, 22, 25, 27 and 30 each include one or more pixel geometry limitations. Claims 10, 15, 25 and 30 include two limitations that read as follows: “wherein said blue emitter is square-shaped having sides aligned parallel to x and y axes of said rectangular coordinate system; and wherein said red emitters and said green emitters are L-shaped and envelop said square blue emitter.” Claims 22 and 27 include limitations that read as follows: “wherein said blue emitter is polygonal having sides aligned such that imaginary lines perpendicularly bisecting each side pass through corners of said polygon; wherein said red emitters are polygonal, each having an inwardly-facing edge parallel to an edge of said polygonal blue emitter; and wherein said green emitters are polygonal, each having an inwardly-facing edge parallel to an edge of said polygonal blue emitter.” Several dependent claims add the further limitation that the blue emitter is square.

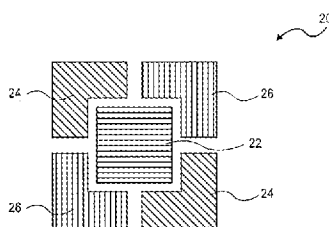
The Office Action acknowledges, at page 19, that the “prior art” (presumably the Maeshima reference) does not explicitly teach a square-shaped blue emitter or L-shaped red and green emitters. The Office Action provides no second reference with which to combine with Maeshima, or which would suggest a modification of the pixel layout in Maeshima that would result in any of the limitations noted above with respect to the pixel geometry recited in Applicant’s claims.

Rather, the Office Action states that “it would have been obvious to a person of ordinary skill in the art to modify the arrangement of LEDs” in Maeshima to achieve several of the various limitations in the claims of the subject application because “it is also obvious to a person of ordinary skill in the art to know if two devices can perform the same function their shape does not matter.” (Office Action, pg. 19.)

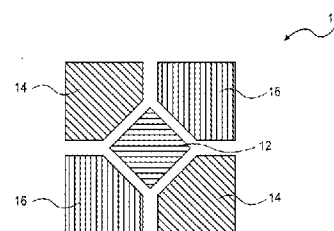
The gist of the § 103 rejection made in the Office Action is that a person of ordinary skill in the art at the time Applicant's invention was made, having looked at the pixel layout of LEDs in FIG. 10C of Maeshima would independently be motivated to modify the shapes and arrangement of the LEDs to produce the embodiments shown in Applicant's FIGS. 1A and 1B, as reproduced below, and as variously claimed in Claims 10, 15, 22, 25, 27 and 30 because “if two devices can perform the same function their shape does not matter.”



Maeshima



Applicant



First, Applicant respectfully suggests that electronics design and manufacturing complexities would mitigate against a person of ordinary skill in the art finding it obvious to lay out light emitters in non-standard shapes. The Examiner has failed to produce one piece of art that shows an L-shaped subpixel, or a square subpixel oriented so that its corners are aligned at x – y axes of a rectangular coordinate system. Indeed, since Maeshima is concerned primarily with LEDs, the Office Action makes no showing that LEDs were capable of being manufactured in the shapes claimed in the claims at issue, and Maeshima does not discuss the shapes of the LEDs, so clearly Maeshima does not provide any motivation to alter the shapes of the LEDs in the pixel of FIG. 10C.

Secondly, if it is true, as stated in the Office Action, that “if two devices can perform the same function their shape does not matter,” then it would seem to follow

that a person of ordinary skill in the art would keep or adopt the simple round shape of the LEDs as taught in Maeshima in FIG. 10C, and not produce light emitters with more complex shapes.

Applicant suggests that the Examiner is using the subject specification as a blueprint for making such modifications, and as such is using impermissible hindsight in framing the instant rejection. To make a *prima facie* case of obviousness under § 103, the Examiner must provide an explicit suggestion, teaching or motivation to make the asserted combination of references, or to modify the teachings in a single reference. While the teaching, suggestion or motivation to make the modification to the subpixel shapes need not be found explicitly in the prior art, and may be implicit from the prior art as a whole, rejections on obviousness grounds are not sustained by mere conclusory statements. There must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness, to guard against the use of hindsight. Applicant submits that the reasoning that “if two devices can perform the same function their shape does not matter” is a conclusory statement with no basis in the prior art of subpixel layouts or geometry.

Applicant respectfully submits that the Office Action fails to state a reasonable motivation for making the proposed modification to the pixel layout in Maeshima to achieve the pixel shapes recited in the claim limitations in Applicant’s claims, and so the Office Action fails to state a *prima facie* case of obviousness with respect to claims 10, 15, 22, 25, 27 and 30. Applicant requests that the rejection be withdrawn as to these claims. With respect to claims 23 – 24 and 28 – 29, these claims depend from claims 22 and 27 respectively, and Applicant requests that the rejection be withdrawn as to these dependent claims as well.

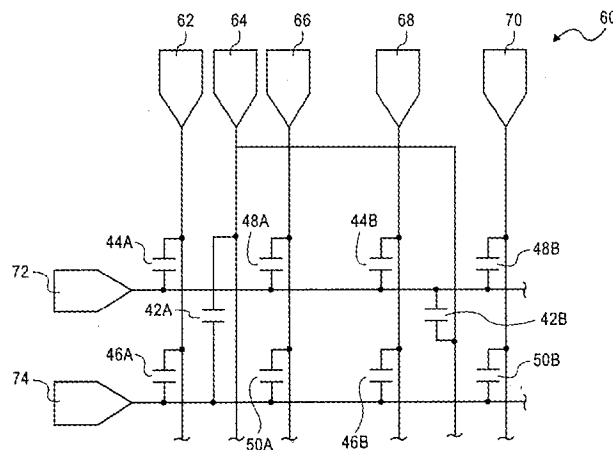
Independent claims 1, 16, 31, 34, 39, 42 and 51: same driver limitation

Claims 1, 16, 31, 34, 39 and 42 include a limitation with respect to the blue emitter that reads as follows: “wherein ... at least two neighboring blue emitters in the at least one row of pixel elements are connected to the same driver.” Claim 51



includes a limitation with respect to the blue emitter that reads as follows: “wherein at least two blue emitters of at least two of the plurality of three-color pixel elements formed along the first direction are connected to a same data driver.”

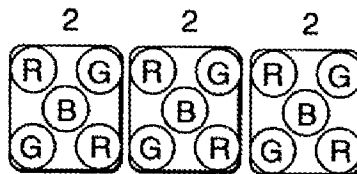
Applicant’s Figure 3B reproduced here shows an embodiment in which two blue emitters 42a and 42b disposed in one row of 3-color pixel elements (see FIG. 2) are connected to one driver 64.



**FIG. 3B**

Applicant first points out that “two neighboring blue emitters” in either the configuration of the subject application, or of the layout of FIG. 10C in Maeshima are disposed in two different columns in a pixel array. Three of the pixels 2 from Maeshima are reproduced below as if positioned in the pixel array 15 of FIG. 1 taught in Maeshima.

**FIG.10C**



It can be seen that Maeshima to implement the configuration of LEDs shown in FIG. 10C in place of a single LED, as Maeshima suggests at col. 6, lines 34 – 40, where each LED is addressable, the drive line circuitry of the single LED array would have to be modified to accommodate the addressing of the five LEDs. Maeshima is simply

silent on any modification to the drive line circuitry with respect to implementing the pixel layout in FIG. 10C. Applicant respectfully submits that the Maeshima reference is not enabling with respect to the driving circuitry for this pixel configuration.

It can also be seen that for two neighboring blue emitters to be connected to the same data driver, a change to conventional drive line circuitry is needed such as that provided in Applicant's specification. It can also be seen that for two neighboring blue emitters to be connected to the same row driver in Maeshima, an extra row line is needed specifically for the blue emitters. Again, Maeshima is silent as to these aspects of the driving circuitry for implementing FIG. 10C.

The Office Action does not explicitly acknowledge that the Maeshima does not teach that two neighboring blue emitters are connected to the same driver. The Office Action also provides no second reference with which to combine with Maeshima that teaches two neighboring blue emitters being connected to the same driver.

Rather, the Office Action states that "it is obvious to know that two blue emitters should be connected to the same data driver which is where they receive their video signal." (Office Action, pp. 18 – 19.) This is actually not an accurate statement with respect to a conventional display. In a display in which data drivers drive column lines to provide image signals, Applicant respectfully submits that emitters in different columns, as "two neighboring blue emitters" would be in either Applicant's or Maeshima's pixel configuration, are conventionally not connected to the same driver. Each column driver conventionally drives all subpixel units in the column, but does not drive subpixel units in adjacent or remote columns.

Thus, the Office Action has recited a faulty conclusion with respect to what a person of ordinary skill in the art would know with respect to connecting neighboring blue emitters to drive circuitry for providing image/video signals. Applicant respectfully submits that a person of ordinary skill in the art implementing the pixel layout of FIG. 10C in Maeshima would simply add a separate data driver and line for each column of blue emitters, and a first blue emitter would be connected to a

different data driver from a neighboring blue emitter. Only if the person of ordinary skill in the art had Applicant's specification as a blueprint, would he or she connect neighboring blue emitters to the same driver, or to the same data driver.

The Office Action states a faulty conclusion with respect to what is obvious with respect to connecting the blue emitters. Maeshima is a non-enabling reference as to the driving circuitry for implementing the LED layout of FIG. 10C. Even if a person of ordinary skill in the art would implement the LED layout of FIG. 10C in a conventional manner, that person would add row and column drive lines to accommodate the blue LEDs, and would not connect two neighboring blue emitters to the same data driver. Applicant respectfully submits that the Office Action fails to state a *prima facie* case of obviousness with respect to claims 1, 16, 31, 34, 39, 42 and 51. Applicant requests that the rejection be withdrawn as to these claims. With respect to claims 1 – 5, 17 – 20, 32 – 33, 35 – 36, 43 – 46 and 52 – 55, these claims depend from claims 1, 16, 31, 34, 42 and 51 respectively, and Applicant requests that the rejection be withdrawn as to these dependent claims as well.

#### **Related Applications and Information Disclosure Statement**

The undersigned wishes to ensure that the Examiner is aware of applications and issued patents owned by assignee of the subject application that contain subject matter related to that in the subject application. The Examiner's attention is directed to the following U.S. Patent Application Publications and issued US Patent: 6,903,754; 2003/0090581; 2003/0117423; 2004/0046714; 2005/0174363; 2005/0248262; and 2005/0264588. These publications will be cited on an Information Disclosure Statement filed within two weeks of this Reply, along with relevant Office Actions and Responses that have occurred in the examination of these applications. Copies of the Office Actions and Responses will also be provided.

**Conclusion**

The undersigned thanks the Examiner for the indication of allowable subject matter.

In view of the foregoing amendments and remarks, Applicant respectfully submits that all pending rejected claims are patentable over the cited rejections and art of record and are in condition for allowance. Therefore, Applicant requests the Examiner to reconsider and withdraw the outstanding rejection and pass this application to allowance.

If the Examiner believes a telephone conference would expedite the allowance of the claims, the Examiner is invited to contact Judith C. Bares at (707) 824-2486.

Respectfully submitted,

\_\_\_\_\_  
/Judith C. Bares/

Judith C. Bares Reg. No. 35,824

Dated: July 1, 2006